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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,839	06/19/2001	Frank Heine	1589	2481

7590

03/05/2003

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EXAMINER

LIN, TINA M

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,839

Applicant(s)

HEINE ET AL.

Examiner

Tina M Lin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ²⁰~~02~~ December 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is responsive to applicant's communication submitted on 20 December 2002. Corrections of the minor informalities are noted by the examiner.

The disclosure is objected to because of the following informalities: In the substitute specification on page 3, the abbreviation "Cer" is objected to. The correct abbreviation for the element Cerium is "Ce". Throughout, the spelling of "neodym" is objected to. The correct spelling of the element is "neodymium". Throughout, the spelling of "praseodym" is objected to. The correct spelling of the element is "praseodymium". Appropriate correction is required. The applicant's cooperation is requested in correcting any other errors of which applicant may become aware of in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,023,479 to Thoney et al. Thoney et al. discloses a microlaser cavity where the active part of the microlaser is co-doped with ytterbium and cerium. But Thoney et al. fails to disclose the doping in an optical waveguide. However, Thoney et al. does mention that the microlaser cavity has a beam going through the cavity; just like an optical waveguide and that it can be

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coupled to an optical fiber. Because the cavity can be coupled with an optical fiber, the conclusion that the microlaser cavity is analogous to an optical waveguide can be drawn. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have either a microlaser cavity or an optical waveguide core, since they perform the same function of guiding a beam, to be co-doped with cerium and ytterbium.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,023,479 to Thoney et al. as applied to claim 1 above, and further in view of U.S. Patent 6,198,870 B1 to Kubota et al. Thoney et al. discloses all discusses above but Thoney et al. fails to disclose a waveguide formed as a silicate fiber and the core being co-doped for adjusting a refractive index profile. However, Kubota et al. teaches the use of fluoride, oxyhalide, and chlorine glasses as waveguide fiber materials. Therefore, it would have been obvious to a person of ordinary skill in the art to use other well known glasses, such as a silicate fiber in place of the before mentioned material. Kubota et al. also discusses the idea of co-doping to adjust the refractive index profile in a fluoride glass fiber. Therefore, the use of the co-doping technique to adjust a refractive index profile in another material, such as silicate fiber, would have been obvious to a person of ordinary skill in the art.

Claims 4, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,023,479 to Thoney et al., and further in view of U.S. Patent 5,537,505 to Borrelli et al. Thoney et al. discloses all discusses above but Thoney et al. fails to disclose the use of a waveguide specifically as an optical amplifier, optical power amplifier, or as an optical device which is used under radiation loading. Borrelli et al. teaches the art of using an optically active glass ceramic article as an optical waveguide fiber amplifier. (Column 11 Line 26-31)

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Therefore, use of the Thoney et al. compositions as optical amplifiers or optical devices, which are used under radiation loading, would certainly have been obvious to a person with ordinary skill in the art.

Allowable Subject Matter

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art, U.S. Patent 6,023,479 to Thoney et al. fails to disclose or suggest a concentration of cerium or the concentration of Nd, Tm, Ho, Yb, or Pr.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference B discusses the co-doping of Cerium and Neodymium in a crystal in an optical cavity. Reference C discusses the co-doping of a rare earth material and a metal in a waveguide-amplifier and laser. However, none of the References cited disclose or reasonably suggest a specific concentration of Cerium together in combination with Neodymium or Thulium or Holmium or Ytterbium or Praseodymium.

Applicant's communication filed 20 December 2002 have been fully considered and reviewed by the examiner. The amended claims advanced therein and the rejections set forth in the previous Office action are withdrawn. In view of further search, however, and the consequent discover of relevant prior art documents, a new rejection was set forth above. Due to the amendments made to claims 1, 4, 5 and 7, a new search was necessitated.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


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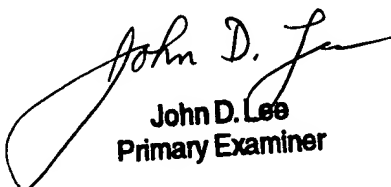
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TML 
February 27, 2003


John D. Lee
Primary Examiner